CLAIMS

We claim:

1. A polymerization process comprising contacting:
   (a) a catalyst system;
   (b) monomers; and
   (c) an antistatic agent;

   in a reactor under polymerization conditions;

   wherein the antistatic agent is present from about .05 to about 200 ppm based on the weight of the monomers introduced into the reactor.

2. The polymerization process of claim 1, wherein the antistatic agent is contacted with a scavenger prior to polymerization.

3. The polymerization process of claim 2, wherein the scavenger comprises an aluminum alkyl compound.

4. The polymerization process of claim 3, wherein the aluminum alkyl compound is selected from the group consisting of triethylaluminum, trimethylaluminum, tri-isobutylaluminum, tri-n-hexylaluminum, diethyl aluminum chloride, and mixtures thereof.

5. The polymerization process of claim 4, wherein the aluminum alkyl compound is triethylaluminum.

6. The polymerization process of claim 1, wherein the antistatic agent comprises a polysulfone copolymer, a polymeric polyamine, an oil-soluble sulfonic acid, or mixtures thereof, with or without a solvent.

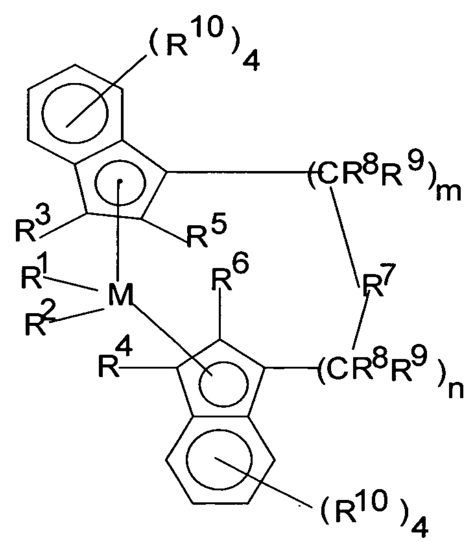
7. The polymerization process of claim 1, wherein the antistatic agent is present from about 0.1 to about 40 ppm based on the weight of the monomers introduced into the reactor.

8. The polymerization process of claim 1, wherein the antistatic agent is present from about 0.1 to about 5 ppm based on the weight of the monomers introduced into the reactor.

9. The polymerization process of claim 1, wherein the antistatic agent is present from about 0.3 to about 0.8 ppm based on the weight of the monomers introduced into the reactor.

10. The polymerization process of claim 1, wherein the catalyst system comprises a supported metallocene catalyst system.

11. The polymerization process of claim 1, wherein the catalyst system comprises a supported metallocene catalyst system comprising a support and a metallocene, the metallocene represented by the following:

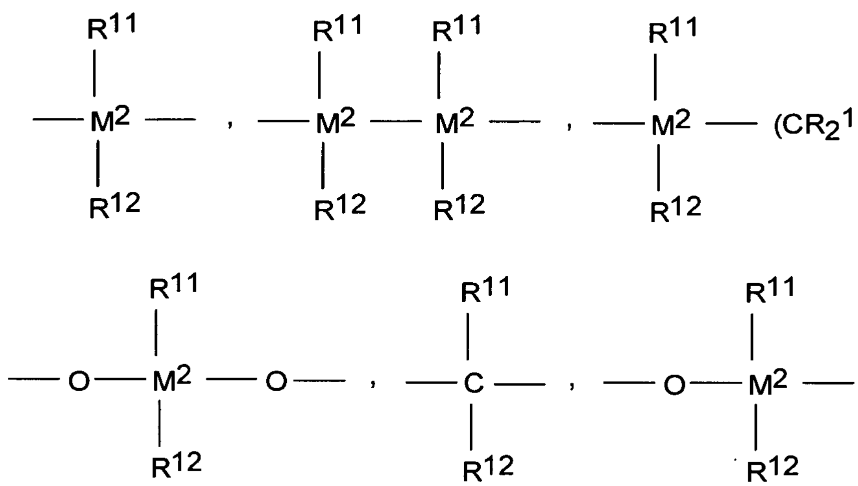


wherein M is a metal of Group 4, 5, or 6 of the Periodic Table;

R^1 and R^2 are identical or different, and are one of a hydrogen atom, a C_1-C_{10} alkyl group, a C_1-C_{10} alkoxy group, a C_6-C_{10} aryl group, a C_6-C_{10} aryloxy group, a C_2-C_{10} alkenyl group, a C_7-C_{40} arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, or a halogen atom;

R^5 and R^6 are identical or different, and are one of a halogen atom, a C_1-C_{10} alkyl group, which may be halogenated, a C_6-C_{10} aryl group, which may be halogenated, a C_2-C_{10} alkenyl group, a C_7-C_{40} -arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, a $-NR_2{}^{15}$, -SR^{15}, $-OR^{15}$, $-OSiR_3{}^{15}$ or $-PR_2{}^{15}$ radical, wherein R^{15} is one of a halogen atom, a C_1-C_{10} alkyl group, or a C_6-C_{10} aryl group;

R^7 is



$-B(R^{11})-$, $-Al(R^{11})-$, -Ge-, -Sn-, -O-, -S-, -SO-, $-SO_2-$, $-N(R^{11})-$, -CO-, $-P(R^{11})-$, or $-P(O)(R^{11})-$;

wherein R^{11}, R^{12} and R^{13} are identical or different and are a hydrogen atom, a halogen atom, a C_1-C_{20} alkyl group, a C_1-C_{20} fluoroalkyl group, a C_6-C_{30} aryl group, a C_6-C_{30} fluoroaryl group, a C_1-C_{20} alkoxy group, a C_2-C_{20} alkenyl group, a C_7-C_{40} arylalkyl group, a C_8-C_{40} arylalkenyl group, a C_7-C_{40} alkylaryl group, or R^{11} and R^{12}, or R^{11} and R^{13}, together with the atoms binding them, can form ring systems;

M^2 is silicon, germanium or tin;

R^8 and R^9 are identical or different and have the meanings stated for R^{11};

m and n are identical or different and are zero, 1 or 2, m plus n being zero, 1 or 2; and

the radicals R^3, R^4, and R^{10} are identical or different and have the meanings stated for R^{11}, R^{12} and R^{13}.

12. The polymerization process of claim 11, wherein the support is a fluorided support.

13. The polymerization process of claim 1, wherein the catalyst system comprises a metallocene catalyst system comprising a metallocene selected from the group consisting of Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-indenyl)

zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dichloride; and mixtures thereof.

14. The polymerization process of claim 13, wherein the catalyst system further comprises a support.

15. The polymerization process of claim 14, wherein the support is a fluorided support.

16. A contact product of components comprising:
(a) a catalyst system;
(b) an antistatic agent; and
(c) monomers;
wherein the antistatic agent is present from about .05 to about 200 ppm based on the weight of the monomers.

17. The contact product of claim 16, wherein the antistatic agent is contacted with a scavenger prior to polymerization.

18. The contact product of claim 17, wherein the scavenger comprises an aluminum alkyl compound.

19. The contact product of claim 18, wherein the aluminum alkyl compound is selected from the group consisting of triethylaluminum, trimethylaluminum, tri-isobutylaluminum, tri-n-hexylaluminum, diethyl aluminum chloride, and mixtures thereof.

20. The contact product of claim 19, wherein the aluminum alkyl compound is triethylaluminum.

21. The contact product of claim 16, wherein the antistatic agent comprises a polysulfone copolymer, a polymeric polyamine, an oil-soluble sulfonic acid, or mixtures thereof, with or without a solvent.

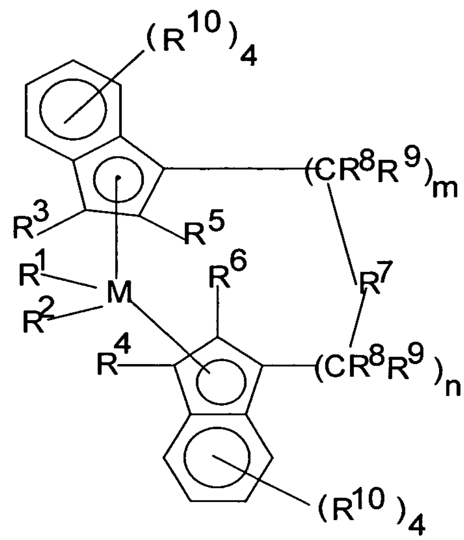
22. The contact product of claim 16, wherein the antistatic agent is present from about 0.1 to about 40 ppm based on the weight of the monomers.

23. The contact product of claim 16, wherein the antistatic agent is present from about 0.1 to about 5 ppm based on the weight of the monomers.

24. The contact product of claim 16, wherein the antistatic agent is present from about 0.3 to about 0.8 ppm based on the weight of the monomers.

25. The contact product of claim 16, wherein the catalyst system comprises a supported metallocene catalyst system.

26. The contact product of claim 16, wherein the catalyst system comprises a supported metallocene catalyst system comprising a support and a metallocene, the metallocene represented by the following:

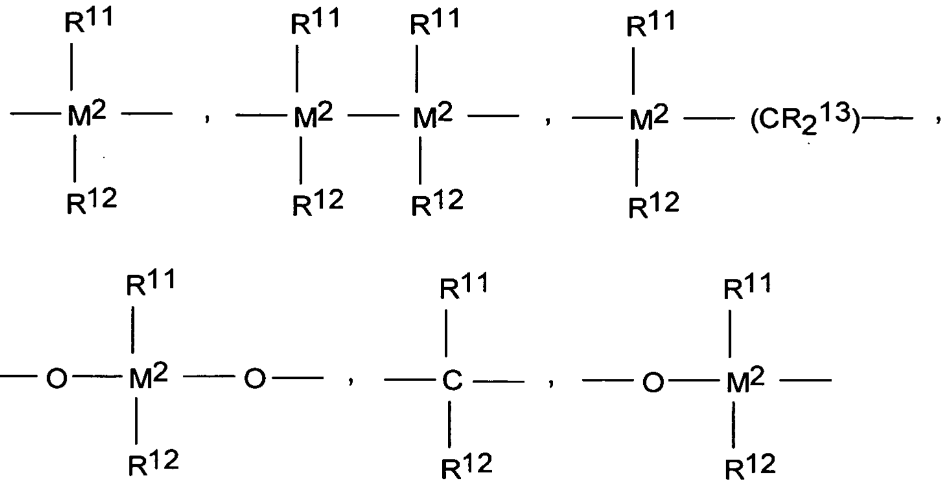


wherein M is a metal of Group 4, 5, or 6 of the Periodic Table;

R^1 and R^2 are identical or different, and are one of a hydrogen atom, a C_1-C_{10} alkyl group, a C_1-C_{10} alkoxy group, a C_6-C_{10} aryl group, a C_6-C_{10} aryloxy group, a C_2-C_{10} alkenyl group, a C_7-C_{40} arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, or a halogen atom;

R^5 and R^6 are identical or different, and are one of a halogen atom, a C_1-C_{10} alkyl group, which may be halogenated, a C_6-C_{10} aryl group, which may be halogenated, a C_2-C_{10} alkenyl group, a C_7-C_{40} -arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, a $-NR_2^{15}$, -SR^{15}, $-OR^{15}$, $-OSiR_3^{15}$ or $-PR_2^{15}$ radical, wherein R^{15} is one of a halogen atom, a C_1-C_{10} alkyl group, or a C_6-C_{10} aryl group;

R^7 is



$-B(R^{11})-$, $-Al(R^{11})-$, -Ge-, -Sn-, -O-, -S-, -SO-, $-SO_2-$, $-N(R^{11})-$, -CO-, $-P(R^{11})-$, or $-P(O)(R^{11})-$;

wherein R^{11}, R^{12} and R^{13} are identical or different and are a hydrogen atom, a halogen atom, a C_1-C_{20} alkyl group, a C_1-C_{20} fluoroalkyl group, a C_6-C_{30} aryl group, a C_6-C_{30} fluoroaryl group, a C_1-C_{20} alkoxy group, a C_2-C_{20} alkenyl group, a C_7-C_{40} arylalkyl group, a C_8-C_{40} arylalkenyl group, a C_7-C_{40} alkylaryl group, or R^{11} and R^{12}, or R^{11} and R^{13}, together with the atoms binding them, can form ring systems;

M^2 is silicon, germanium or tin;

R^8 and R^9 are identical or different and have the meanings stated for R^{11};

m and n are identical or different and are zero, 1 or 2, m plus n being zero, 1 or 2; and

the radicals R^3, R^4, and R^{10} are identical or different and have the meanings stated for R^{11}, R^{12} and R^{13}.

27. The contact product of claim 26, wherein the support is a fluorided support.

28. The contact product of claim 16, wherein the catalyst system comprises a metallocene catalyst system comprising a metallocene selected from the group consisting of Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dichloride; and mixtures thereof.

29. The contact product of claim 28, wherein the catalyst system further comprises a support.

30. The contact product of claim 29, wherein the support is a fluorided support.

31. The contact product of claim 16, wherein the contact product comprises a propylene homopolymer or copolymer.

32. A process for the continuous gas phase polymerization of propylene polymers in a reactor, the process comprising contacting:
    (a) a catalyst system comprising a metallocene catalyst system;
    (b) monomers; and
    (c) an antistatic agent comprising a polysulfone copolymer, a polymeric polyamine, an oil-soluble sulfonic acid, or mixtures thereof, with or without a solvent;
    wherein the antistatic agent is present from about .05 to about 200 ppm based on the weight of the monomers introduced into the reactor.

33. The process of claim 32, wherein the antistatic agent is contacted with a scavenger prior to polymerization.

34. The process of claim 33, wherein the scavenger comprises an aluminum alkyl compound.

35. The process of claim 34, wherein the aluminum alkyl compound is selected from the group consisting of triethylaluminum, trimethylaluminum, tri-isobutylaluminum, tri-n-hexylaluminum, diethyl aluminum chloride, and mixtures thereof.

36. The process of claim 35, wherein the aluminum alkyl compound is triethylaluminum.

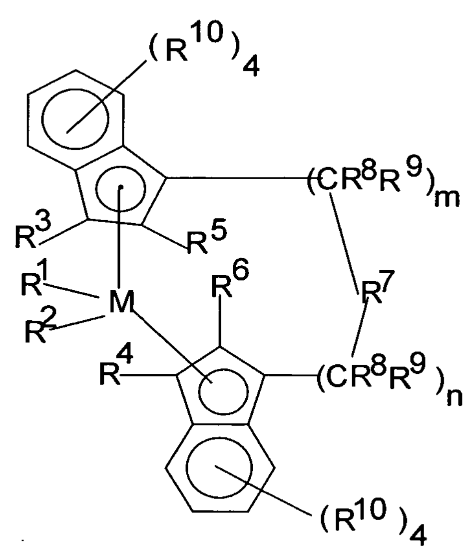
37. The process of claim 32, wherein the antistatic agent is present from about 0.1 to about 40 ppm based on the weight of the monomers introduced into the reactor.

38. The process of claim 32, wherein the antistatic agent is present from about 0.1 to about 5 ppm based on the weight of the monomers introduced into the reactor.

39. The process of claim 32, wherein the antistatic agent is present from about 0.3 to about 0.8 ppm based on the weight of the monomers introduced into the reactor.

40. The process of claim 32, wherein the metallocene catalyst system comprises a supported metallocene catalyst system.

41. The process of claim 32, wherein the metallocene catalyst system comprises a support and a metallocene, the metallocene represented by the following:

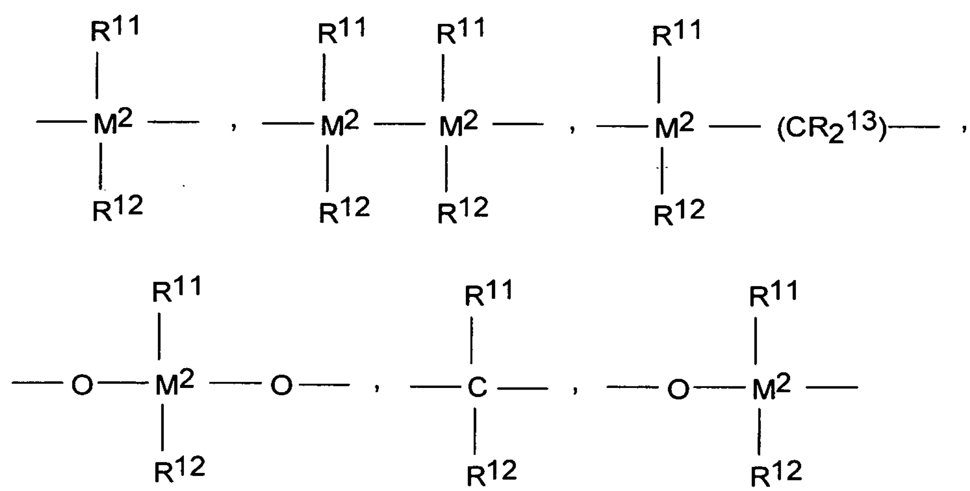


wherein M is a metal of Group 4, 5, or 6 of the Periodic Table;

R^1 and R^2 are identical or different, and are one of a hydrogen atom, a C_1-C_{10} alkyl group, a C_1-C_{10} alkoxy group, a C_6-C_{10} aryl group, a C_6-C_{10} aryloxy group, a C_2-C_{10} alkenyl group, a C_7-C_{40} arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, or a halogen atom;

R^5 and R^6 are identical or different, and are one of a halogen atom, a C_1-C_{10} alkyl group, which may be halogenated, a C_6-C_{10} aryl group, which may be halogenated, a C_2-C_{10} alkenyl group, a C_7-C_{40} -arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, a $-NR_2{}^{15}$, $-SR^{15}$, $-OR^{15}$, $-OSiR_3{}^{15}$ or $-PR_2{}^{15}$ radical, wherein R^{15} is one of a halogen atom, a C_1-C_{10} alkyl group, or a C_6-C_{10} aryl group;

R^7 is



$-B(R^{11})-$, $-Al(R^{11})-$, $-Ge-$, $-Sn-$, $-O-$, $-S-$, $-SO-$, $-SO_2-$, $-N(R^{11})-$, $-CO-$, $-P(R^{11})-$, or $-P(O)(R^{11})-$;

wherein R^{11}, R^{12} and R^{13} are identical or different and are a hydrogen atom, a halogen atom, a C_1-C_{20} alkyl group, a C_1-C_{20} fluoroalkyl group, a C_6-C_{30} aryl group, a C_6-C_{30} fluoroaryl group, a C_1-C_{20} alkoxy group,

a C_2-C_{20} alkenyl group, a C_7-C_{40} arylalkyl group, a C_8-C_{40} arylalkenyl group, a C_7-C_{40} alkylaryl group, or R^{11} and R^{12}, or R^{11} and R^{13}, together with the atoms binding them, can form ring systems;

M^2 is silicon, germanium or tin;

R^8 and R^9 are identical or different and have the meanings stated for R^{11};

m and n are identical or different and are zero, 1 or 2, m plus n being zero, 1 or 2; and

the radicals R^3, R^4, and R^{10} are identical or different and have the meanings stated for R^{11}, R^{12} and R^{13}.

42. The process of claim 41, wherein the support is a fluorided support.

43. The process of claim 32, wherein the metallocene catalyst system comprises a metallocene selected from the group consisting of Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl)

zirconium dichloride; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dichloride; and mixtures thereof.

44. The process of claim 43, wherein the metallocene catalyst system further comprises a support.

45. The process of claim 44, wherein the support is a fluorided support.

46. A propylene homopolymer or copolymer produced by the process of claim 32.

47. A process for the continuous slurry polymerization to produce propylene polymers in a reactor, the process comprising contacting:
   (a) a catalyst system comprising a metallocene catalyst system;
   (b) monomers; and
   (c) an antistatic agent comprising at least one of the components selected from the group consisting of a polysulfone copolymer, a polymeric polyamine, oil-soluble sulfonic acid, or mixtures thereof, with or without a solvent;
   wherein the antistatic agent is present from about .05 to about 200 ppm based on the weight of the monomers introduced into the reactor.

48. The polymerization process of claim 47, wherein the antistatic agent is contacted with a scavenger prior to polymerization.

49. The polymerization process of claim 48, wherein the scavenger comprises an aluminum alkyl compound.

50. The polymerization process of claim 49, wherein the aluminum alkyl compound is selected from the group consisting of triethylaluminum, trimethylaluminum, tri-isobutylaluminum, tri-n-hexylaluminum, diethyl aluminum chloride, and mixtures thereof.

51. The polymerization process of claim 50, wherein the aluminum alkyl compound is triethylaluminum.

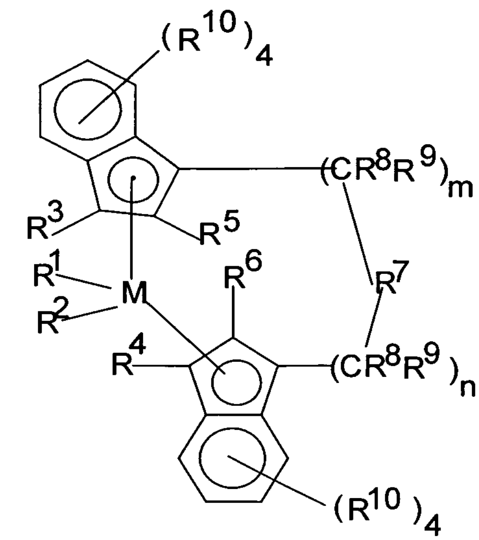
52. The polymerization process of claim 47, wherein the antistatic agent is present from about 0.1 to about 40 ppm based on the weight of the monomers introduced into the reactor.

53. The polymerization process of claim 47, wherein the antistatic agent is present from about 0.1 to about 5 ppm based on the weight of the monomers introduced into the reactor.

54. The polymerization process of claim 47, wherein the antistatic agent is present from about 0.3 to about 0.8 ppm based on the weight of the monomers introduced into the reactor.

55. The polymerization process of claim 47, wherein the metallocene catalyst system comprises a supported metallocene catalyst system.

56. The polymerization process of claim 47, wherein the metallocene catalyst system comprises a support and a metallocene, the metallocene represented by the following:

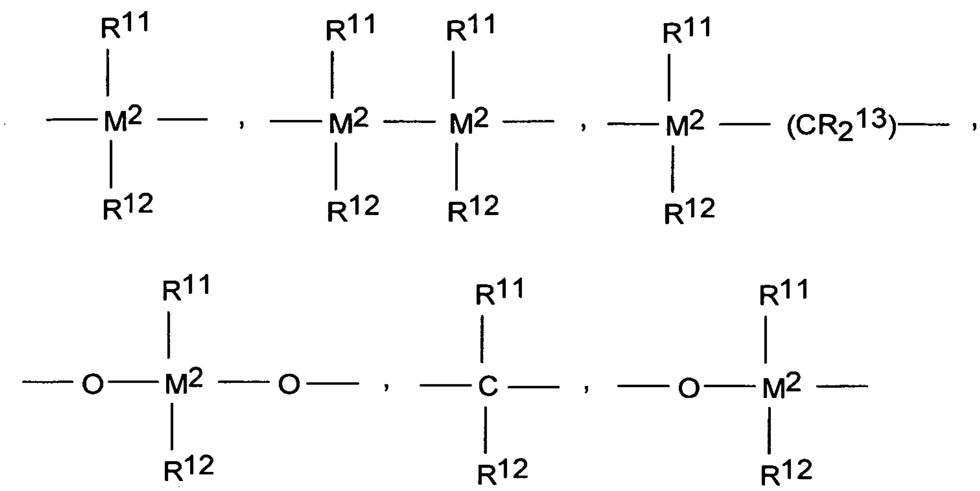


wherein M is a metal of Group 4, 5, or 6 of the Periodic Table;

R^1 and R^2 are identical or different, and are one of a hydrogen atom, a C_1-C_{10} alkyl group, a C_1-C_{10} alkoxy group, a C_6-C_{10} aryl group, a C_6-C_{10} aryloxy group, a C_2-C_{10} alkenyl group, a C_7-C_{40} arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, or a halogen atom;

R^5 and R^6 are identical or different, and are one of a halogen atom, a C_1-C_{10} alkyl group, which may be halogenated, a C_6-C_{10} aryl group, which may be halogenated, a C_2-C_{10} alkenyl group, a C_7-C_{40} -arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, a $-NR_2{}^{15}$, -SR^{15}, $-OR^{15}$, $-OSiR_3{}^{15}$ or $-PR_2{}^{15}$ radical, wherein R^{15} is one of a halogen atom, a C_1-C_{10} alkyl group, or a C_6-C_{10} aryl group;

R^7 is



-B(R^{11})-, -Al(R^{11})-, -Ge-, -Sn-, -O-, -S-, -SO-, -SO_2-, -N(R^{11})-, -CO-, -P(R^{11})-, or -P(O)(R^{11})-;

wherein R^{11}, R^{12} and R^{13} are identical or different and are a hydrogen atom, a halogen atom, a C_1-C_{20} alkyl group, a C_1-C_{20} fluoroalkyl group, a C_6-C_{30} aryl group, a C_6-C_{30} fluoroaryl group, a C_1-C_{20} alkoxy group, a C_2-C_{20} alkenyl group, a C_7-C_{40} arylalkyl group, a C_8-C_{40} arylalkenyl group, a C_7-C_{40} alkylaryl group, or R^{11} and R^{12}, or R^{11} and R^{13}, together with the atoms binding them, can form ring systems;

M^2 is silicon, germanium or tin;

R^8 and R^9 are identical or different and have the meanings stated for R^{11};

m and n are identical or different and are zero, 1 or 2, m plus n being zero, 1 or 2; and

the radicals R^3, R^4, and R^{10} are identical or different and have the meanings stated for R^{11}, R^{12} and R^{13}.

57. The polymerization process of claim 56, wherein the support is a fluorided support.

58. The polymerization process of claim 47, wherein the metallocene catalyst system comprises a metallocene selected from the group consisting of Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dichloride; and mixtures thereof.

59. The polymerization process of claim 58, wherein the metallocene catalyst system further comprises a support.

60. The polymerization process of claim 59, wherein the support is a fluorided support.

61. A homopolymer or copolymer produced by the process of claim 47.

62. A method to reduce fouling in a reactor comprising the step of:
    (a) adding propylene monomers into the reactor;
    (b) adding a catalyst system comprising a metallocene catalyst system;
    (c) adding an antistatic agent; and
    (d) forming a polymer in the reactor;

    wherein the antistatic agent is present from about .05 to about 200 ppm based on the weight of the propylene monomers introduced into the reactor.

63. The method of claim 62, wherein the antistatic agent is contacted with a scavenger prior to polymerization.

64. The method of claim 63, wherein the scavenger comprises an aluminum alkyl compound.

65. The method of claim 64, wherein the aluminum alkyl compound is selected from the group consisting of triethylaluminum, trimethylaluminum, tri-isobutylaluminum, tri-n-hexylaluminum, diethyl aluminum chloride, and mixtures thereof.

66. The method of claim 65, wherein the aluminum alkyl compound is triethylaluminum.

67. The method of claim 62, wherein the antistatic agent comprises a polysulfone copolymer, a polymeric polyamine, an oil-soluble sulfonic acid, or mixtures thereof, with or without a solvent.

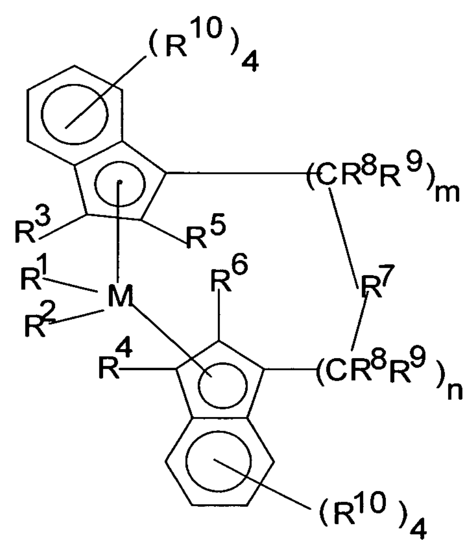
68. The method of claim 62, wherein the antistatic agent is present from about 0.1 to about 40 ppm based on the weight of the propylene monomers introduced into the reactor.

69. The method of claim 62, wherein the antistatic agent is present from about 0.1 to about 5 ppm based on the weight of the propylene monomers introduced into the reactor.

70. The method of claim 62, wherein the antistatic agent is present from about 0.3 to about 0.8 ppm based on the weight of the propylene monomers introduced into the reactor.

71. The method of claim 62, wherein the metallocene catalyst system comprises a supported metallocene catalyst system.

72. The method of claim 62, wherein the metallocene catalyst system comprises a support and a metallocene, the metallocene represented by the following:

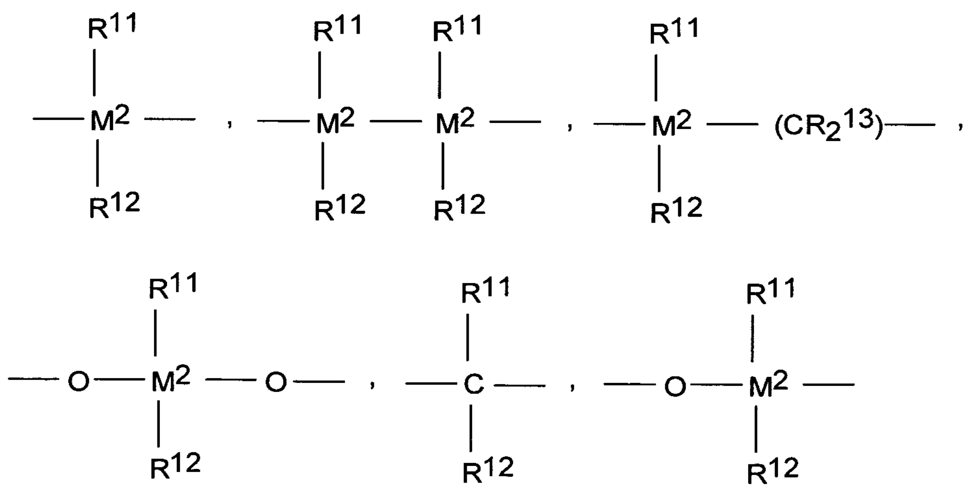


wherein M is a metal of Group 4, 5, or 6 of the Periodic Table;

R^1 and R^2 are identical or different, and are one of a hydrogen atom, a C_1-C_{10} alkyl group, a C_1-C_{10} alkoxy group, a C_6-C_{10} aryl group, a C_6-C_{10} aryloxy group, a C_2-C_{10} alkenyl group, a C_7-C_{40} arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, or a halogen atom;

R^5 and R^6 are identical or different, and are one of a halogen atom, a C_1-C_{10} alkyl group, which may be halogenated, a C_6-C_{10} aryl group, which may be halogenated, a C_2-C_{10} alkenyl group, a C_7-C_{40} -arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, a $-NR_2^{15}$, $-SR^{15}$, $-OR^{15}$, $-OSiR_3^{15}$ or $-PR_2^{15}$ radical, wherein R^{15} is one of a halogen atom, a C_1-C_{10} alkyl group, or a C_6-C_{10} aryl group;

R^7 is



$-B(R^{11})-$, $-Al(R^{11})-$, -Ge-, -Sn-, -O-, -S-, -SO-, $-SO_2-$, $-N(R^{11})-$, -CO-, $-P(R^{11})-$, or $-P(O)(R^{11})-$;

wherein R^{11}, R^{12} and R^{13} are identical or different and are a hydrogen atom, a halogen atom, a C_1-C_{20} alkyl group, a C_1-C_{20} fluoroalkyl group, a C_6-C_{30} aryl group, a C_6-C_{30} fluoroaryl group, a C_1-C_{20} alkoxy group, a C_2-C_{20} alkenyl group, a C_7-C_{40} arylalkyl group, a C_8-C_{40} arylalkenyl

group, a C_7-C_{40} alkylaryl group, or R^{11} and R^{12}, or R^{11} and R^{13}, together with the atoms binding them, can form ring systems;

M^2 is silicon, germanium or tin;

R^8 and R^9 are identical or different and have the meanings stated for R^{11};

m and n are identical or different and are zero, 1 or 2, m plus n being zero, 1 or 2; and

the radicals R^3, R^4, and R^{10} are identical or different and have the meanings stated for R^{11}, R^{12} and R^{13}.

73. The method of claim 72, wherein the support is a fluorided support.

74. The method of claim 62, wherein the metallocene catalyst system comprises a metallocene selected from the group consisting of Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl)

zirconium dichloride; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dichloride; and mixtures thereof.

75. The method of claim 74, wherein the metallocene catalyst system further comprises a support.

76. The method of claim 75, wherein the support is a fluorided support.

77. The method of claim 62, wherein the polymer comprises a propylene homopolymer or copolymer.

78. A continuous process for polymerizing olefin monomers in a reactor under polymerization conditions, the continuous process comprising the steps of:

(a) adding olefin monomers into the reactor;

(b) adding a catalyst system;

(c) adding an antistatic agent; and

(d) forming a polymer in the reactor;

wherein the antistatic agent is present from about .05 to about 200 ppm based on the weight of the olefin monomers introduced into the reactor.

79. The continuous process of claim 78, wherein the antistatic agent is contacted with a scavenger prior to polymerization.

80. The continuous process of claim 79, wherein the scavenger comprises an aluminum alkyl compound.

81. The continuous process of claim 80, wherein the aluminum alkyl compound is selected from the group consisting of triethylaluminum, trimethylaluminum, tri-isobutylaluminum, tri-n-hexylaluminum, diethyl aluminum chloride, and mixtures thereof.

82. The continuous process of claim 81, wherein the aluminum alkyl compound is triethylaluminum.

83. The continuous process of claim 78, wherein the antistatic agent comprises a polysulfone copolymer, a polymeric polyamine, an oil-soluble sulfonic acid, or mixtures thereof, with or without a solvent.

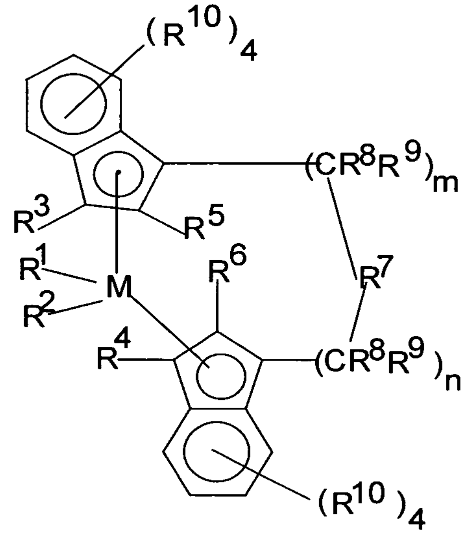
84. The continuous process of claim 78, wherein the antistatic agent is present from about 0.1 to about 40 ppm based on the weight of the olefin monomers introduced into the reactor.

85. The continuous process of claim 78, wherein the antistatic agent is present from about 0.1 to about 5 ppm based on the weight of the olefin monomers introduced into the reactor.

86. The continuous process of claim 78, wherein the antistatic agent is present from about 0.3 to about 0.8 ppm based on the weight of the olefin monomers introduced into the reactor.

87. The continuous process of claim 78, wherein the catalyst system comprises a supported metallocene catalyst system.

88. The continuous process of claim 78, wherein the catalyst system comprises a supported metallocene catalyst system comprising a support and a metallocene, the metallocene represented by the following:

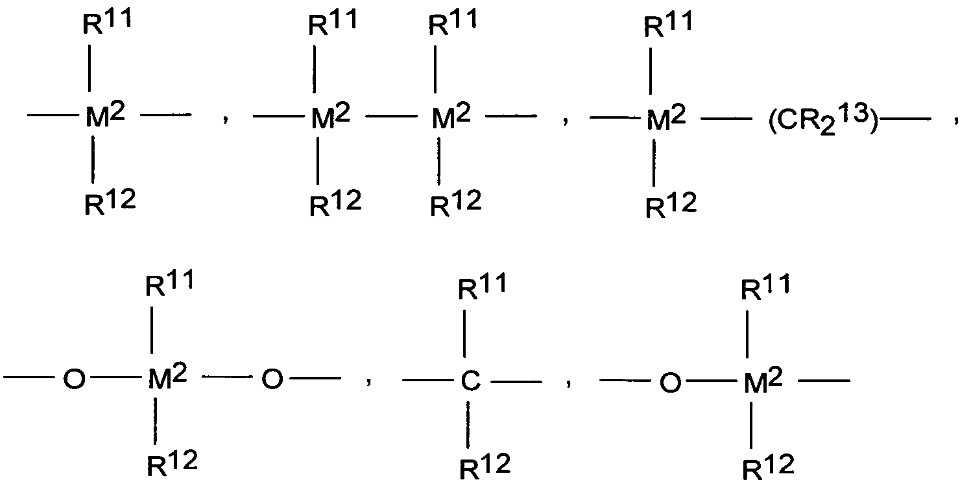


wherein M is a metal of Group 4, 5, or 6 of the Periodic Table;

R^1 and R^2 are identical or different, and are one of a hydrogen atom, a C_1-C_{10} alkyl group, a C_1-C_{10} alkoxy group, a C_6-C_{10} aryl group, a C_6-C_{10} aryloxy group, a C_2-C_{10} alkenyl group, a C_7-C_{40} arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, or a halogen atom;

R^5 and R^6 are identical or different, and are one of a halogen atom, a C_1-C_{10} alkyl group, which may be halogenated, a C_6-C_{10} aryl group, which may be halogenated, a C_2-C_{10} alkenyl group, a C_7-C_{40} -arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, a $-NR_2^{15}$, $-SR^{15}$, $-OR^{15}$, $-OSiR_3^{15}$ or $-PR_2^{15}$ radical, wherein R^{15} is one of a halogen atom, a C_1-C_{10} alkyl group, or a C_6-C_{10} aryl group;

R^7 is



$-B(R^{11})-$, $-Al(R^{11})-$, $-Ge-$, $-Sn-$, $-O-$, $-S-$, $-SO-$, $-SO_2-$, $-N(R^{11})-$, $-CO-$, $-P(R^{11})-$, or $-P(O)(R^{11})-$;

wherein R^{11}, R^{12} and R^{13} are identical or different and are a hydrogen atom, a halogen atom, a C_1-C_{20} alkyl group, a C_1-C_{20} fluoroalkyl group, a C_6-C_{30} aryl group, a C_6-C_{30} fluoroaryl group, a C_1-C_{20} alkoxy group, a C_2-C_{20} alkenyl group, a C_7-C_{40} arylalkyl group, a C_8-C_{40} arylalkenyl group, a C_7-C_{40} alkylaryl group, or R^{11} and R^{12}, or R^{11} and R^{13}, together with the atoms binding them, can form ring systems;

M^2 is silicon, germanium or tin;

R^8 and R^9 are identical or different and have the meanings stated for R^{11};

m and n are identical or different and are zero, 1 or 2, m plus n being zero, 1 or 2; and

the radicals R^3, R^4, and R^{10} are identical or different and have the meanings stated for R^{11}, R^{12} and R^{13}.

89. The continuous process of claim 88, wherein the support is a fluorided support.

90. The continuous process of claim 78, wherein the catalyst system comprises a metallocene catalyst system comprising a metallocene selected from the group consisting of Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dichloride; and mixtures thereof.

91. The continuous process of claim 90, wherein the catalyst system further comprises a support.

92. The continuous process of claim 91, wherein the support is a fluorided support.

93. The continuous process of claim 78, wherein the polymer comprises a propylene homopolymer or copolymer.